

# NATURAL HISTORY MISCELLANEA

Published by  
The Chicago Academy of Sciences

Lincoln Park - 2001 N. Clark St., Chicago 14, Illinois

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No. 90

November 16, 1951

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## A New Species of *Gasteracantha* (Argiopidae) from Sao Tome Island, West Africa

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The tropicopolitan genus *Gasteracantha* has been worked over so thoroughly by A. G. Butler, O. P. Cambridge, Eugene Simon, and especially F. Dahl that it is something in the nature of a surprise to locate a new species from the region of west Africa. Recently Dr. E. S. Ross of the California Academy of Sciences sent to the author a series of Araneine Argiopidae (spiders) of the group *Gasteracanthidi* for determination. Among other items was a large series of *Gasteracantha* from the island of Sao Tome. This island at least 100 miles off the coast of French Equatorial Africa (almost directly west of Libreville) and very nearly on the equator appears to have been isolated over a long period of geologic time. In no literature has any material belonging to this genus been recorded.

### *Gasteracantha thomasinsulae*, new species

Abdomen and carapace having the typical characteristics of the large subgenus *Pachypleuracantha*. Carapace shiny dark brown under a white pile. A pair of blunt cephalic horns present. Legs and palpi light brown or yellow, dusky annulate, the femoral annulation being, however, abortive. Dorsum of the abdomen (in alcohol) golden yellow; sigilla very dusky, surrounded by blackish patches, in a few cases the patches coalescent. Anterolateral spurs of abdomen almost solid black; posterolateral spurs red, but having a basal dark ring and a black tip; caudal spurs red, but with a reduced black tip; ventral surfaces of the last two pairs of spurs dusky. Posterolateral spur long, curved backwards and upwards at the tip. Venter of abdomen yellow, more or less interrupted by a network of black lines and spots.

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Epigynum as shown in Figure 1.

Total length, holotype, 9.1. Abdomen 6.2 mm. long, 13.1 mm. wide. Range of measurements of paratypes: Total length 6.6-9.1 mm. Abdomen 3.7-6.0 mm. long, 8.3-10.7 mm. wide. Right posterolateral spur measured as the chord from base to tip 1.4-2.8 mm.

Type locality: Female holotype and female paratypes, Roca Nova Celyao to Roca Tras-os-Montes, elevation 2500-2900 feet, in and around orange groves, August 7-10, 1949, by B. Malkin.

Other localities: Females, Makambrerá, elevation 4000 feet, August 10-13, 1949, B. Malkin; immature, Zampalma, elevation 2500 feet, August, 1949, B. Malkin.

The holotype is deposited in the collection of the California Academy of Sciences as well as paratypes, while a series of the latter are placed in the collections of the American Museum of Natural History, New York, and in the author's collection, Alabama Museum of Natural History.

This species differs from *G. occidentalis* Dahl chiefly in the female genitalia, the epigynum of the latter shown in Figure 2. In *thomasinsulae* the wide septum between the vulval openings is very convex, a feature in which it also differs from the rather similar *G. lepida* O. P. Cambridge, and there is also a pronounced convexity at the base of the erect scape, a feature not found in the other species. While the vulval openings are vertical in *thomasinsulae* they are not so in *occidentalis*. According to the author's system of grouping species of *Pachypleuracantha*, this species is one of the African series in which the tip of the posterolateral spurs are tapered gradually and not abruptly, an external feature also emphasized by Dahl. In his monograph on *Gasteracantha* (Mitteil. Zool. Mus. Berlin, 1914, vol. 7) Dahl gives as a key character for *occidentalis*, "Der Cephalothorax and die Mandibeln rind schwarz." This feature is quite different in *thomasinsulae* where the carapace and appendages are brown or lighter. However, most emphasis should be placed on the genitalia, and the series of west African genitalia available to the author demonstrates specific distinctions in each case. Kulczynski made use of male genitalia in the case of New Guinean species of *Gasteracantha*, and obtained sounder results than did Dahl whose entire system is based on distinguishing species by using abdominal spurs and the dorsal sigilla. The chief difficulty with the female genitalia is that, except for members of the subgenus *Tatacantha* in the Southwest Pacific Area, they are small and frequently clogged with congealed mucus. However, after proper cleaning they are easily studied and present ample characters for distinguishing species.



Figure 1. *Gasteracantha thomasinsulae* n. sp. Epigynum.



Figure 2. *Gasteracantha occidentalis* Dahl. Epigynum.

*Natural History Miscellanea*, a series of miscellaneous papers initiated in 1946 as an outlet for original articles, more or less technical in nature, one to four pages in length, in any field of natural history. Individual issues, published at irregular intervals, are numbered separately and represent only one field of specialization; e. g., botany, geology, entomology, herpetology, etc. The series is distributed to libraries and scientific organizations with which the Academy maintains exchanges. A title page and index will be supplied to these institutions when a sufficient number of pages to form a volume have been printed. Individual specialists with whom the museum or the various authors maintain exchanges receive those numbers dealing with their particular fields of interest. A reserve is set aside for future exchanges and a supply of each number is available for sale at a nominal price. Authors may obtain copies for their personal exchanges at the prevailing rates for similar reprints.

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